

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



S28 034



(43) International Publication Date  
8 April 2004 (08.04.2004)

PCT

(10) International Publication Number  
**WO 2004/030018 A1**

(51) International Patent Classification<sup>7</sup>: **H01J 37/28,**  
37/20

Matthew, James [GB/GB]; 21 Sunlea Crescent, Sta-  
pleford, Nottingham, NG9 7JP (GB).

(21) International Application Number:  
**PCT/GB2002/004342**

(74) Agent: FREEMAN, Avi; Kodak Limited (Patents), Head-  
stone Drive, Harrow, Middlesex HA1 4TY (GB).

(22) International Filing Date:  
26 September 2002 (26.09.2002)

(81) Designated States (*national*): JP, US.

(25) Filing Language: English

(84) Designated States (*regional*): European patent (AT, BE,  
BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT,  
LU, MC, NL, PT, SE, SK, TR).

(26) Publication Language: English

Published:

— with international search report

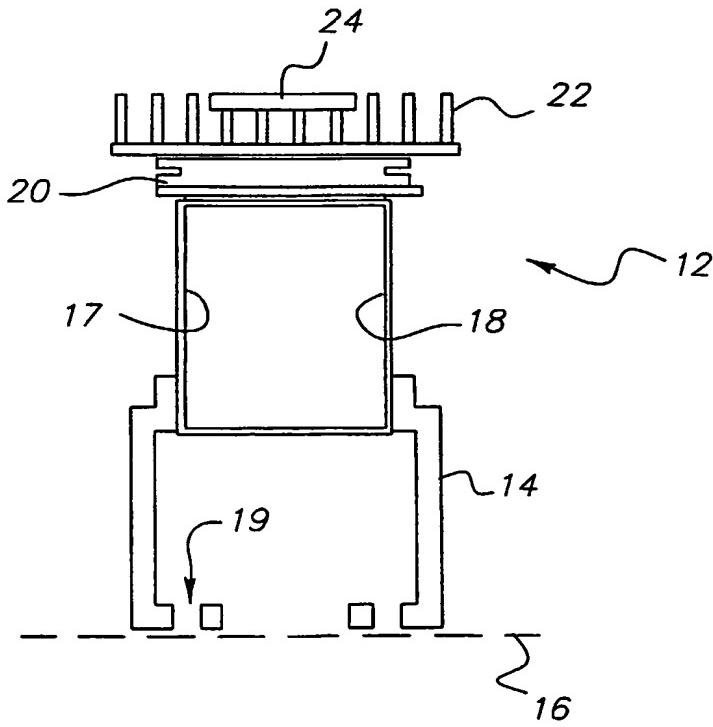
(71) Applicant (*for all designated States except US*): EAST-  
MAN KODAK COMPANY [US/US]; 343 State Street,  
Rochester, NY 14650 (US).

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): KERSHAW,

(54) Title: A SCANNING ELECTRON MICROSCOPE



(57) **Abstract:** The invention provides a liquid injection system (12) for an environmental scanning electron microscope. The liquid injection system comprises a liquid firing device (18) for firing a liquid and a heat transfer system (17, 22, 24). The heat transfer system functions to maintain the liquid below its boiling point at an operating pressure within the specimen chamber of the environmental scanning electron microscope. The invention also provides an environmental scanning electron microscope incorporating a liquid injection system according to the present invention. The invention provides a simple and robust system for enabling investigation of the liquid injection system within an environmental or variable pressure scanning electron microscope.

WO 2004/030018 A1